AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application.

COMPLETE LISTING OF CLAIMS:

Claims 1-86 : (Canceled)

Claim 87 : (Currently Amended) A method of monitoring a status of network elements (NEs) linked together in a telecommunication network, comprising the steps of:

a) polling regularly by a NE at least one other NE which is linked to the NE;

~~a)~~ b) receiving by a network management system a notification ~~from a~~ from the NE in the network of a down status of one of the neighboring NEs;

~~b)~~ c) identifying ~~at least~~ the at least one other NE which is linked to the NE; and

~~c)~~ d) polling by the network management system one of the NE and the at least one other NE to determine the status thereof.

Claim 88 : (Previously Presented) The method according to claim 87, in which the status of the NE is operational.

Claim 89 : (Previously Presented) The method according to claim 87, in which the status of the NE is non-operational.

Claim 90 : (Previously Presented) The method according to claim 87, in which the down status notification is received from the NE if the NE determines that the status of the at least one other NE linked thereto is non-operational.

Claim 91 : (Previously Presented) The method according to claim 90, in which each NE polls one of the NE and the at least one other NE linked thereto to determine the status of the at least one other NE.

Claim 92 : (Previously Presented) The method according to claim 91, in which each NE polls one of the NE and the at least one other NE linked thereto by signaling to the at least one other NE, using a signaling protocol.

Claim 93 : (Previously Presented) The method according to claim 91, in which, if one of the NE and the at least one other NE replies, the status is considered to be operational.

Claim 94 : (Previously Presented) The method according to claim 91, in which, if one of the NE and the at least one other NE does not reply, the status is considered to be non-operational.

Claim 95 : (Previously Presented) The method according to claim 87, in which the down status notification contains information on the NE which has output the notification.

Claim 96 : (Previously Presented) The method according to claim 87, in which the down status notification is received from a NE if the NE determines that a status of an interface thereof linked to at least one other NE is non-operational.

Claim 97 : (Previously Presented) The method according to claim 96, in which the status of the interface is non-operational if the status of the one of the NE and the at least one other NE linked to the interface is non-operational.

Claim 98 : (Previously Presented) The method according to claim 96, in which the down status notification contains information on the NE which has output the notification, and information on the interface of the NE which is non-operational.

Claim 99 : (Previously Presented) The method according to claim 96, in which the interface comprises a hardware port, and the down status notification comprises a hardware port down trap.

Claim 100 : (Previously Presented) The method according to claim 87, in which the down status notification is received using a signaling protocol.

Claim 101 : (Previously Presented) The method according to claim 100, in which the signaling protocol comprises a simple network management protocol (SNMP).

Claim 102 : (Previously Presented) The method according to claim 87, in which the identifying step comprises accessing the down status notification to obtain information on the NE which has output the notification.

Claim 103 : (Previously Presented) The method according to claim 102, in which the identifying step comprises accessing a links database containing details of each NE and the at least one other NE linked thereto, and using the information to obtain the identification of one of the NE and the at least one other NE.

Claim 104 : (Previously Presented) The method according to claim 103, in which the identifying step comprises accessing the links database and using the information to obtain an internet protocol (IP) address of one of the NE and the at least one other NE.

Claim 105 : (Previously Presented) The method according to claim 87, in which the polling step comprises sending at least one simple network management protocol (SNMP) get request to the NE.

Claim 106 : (Previously Presented) The method according to claim 105, in which the polling step comprises using the SNMP over transmission control protocol/internet protocol (TCP/IP).

Claim 107 : (Previously Presented) The method according to claim 87, and using a network management system (NMS) of the telecommunication network.

Claim 108 : (Previously Presented) The method according to claim 107, in which the NMS comprises a fault manager module.

Claim 109 : (Previously Presented) The method according to claim 108, in which the fault manager module receives the down status notification from the NE.

Claim 110 : (Previously Presented) The method according to claim 109, in which the fault manager module places the down status notification in a notification database of the NMS.

Claim 111 : (Previously Presented) The method according to claim 109, in which the fault manager module outputs a message on receipt of the down status notification.

Claim 112 : (Previously Presented) The method according to claim 111, in which the NMS comprises a monitoring module.

Claim 113 : (Previously Presented) The method according to claim 112, in which the monitoring module receives a message output from the fault manager module when it receives the down status notification.

Claim 114 : (Previously Presented) The method according to claim 113, in which the monitoring module accesses the down status notification, to obtain information on the NE which has output the notification.

Claim 115 : (Previously Presented) The method according to claim 114, in which the monitoring module accesses a links database of the NMS containing details of each NE and the at least one other NE linked thereto, and uses the information to obtain the identification of one of the NE and each other NE.

Claim 116 : (Previously Presented) The method according to claim 115, in which the monitoring module polls one of the NE and each other NE to determine the status thereof.

Claim 117 : (Previously Presented) The method according to claim 116, in which the monitoring module determines the status of at least one NE of the network, and adds status information to a status database of the NMS.

Claim 118 : (Previously Presented) The method according to claim 107, in which the NMS comprises a graphical user interface (GUI) module.

Claim 119 : (Previously Presented) The method according to claim 118, in which the GUI module is used to report the status of one of the NE and the at least one other NE of the network to a customer of the network.

Claim 120 : (Previously Presented) The method according to claim 87, in which the NEs in the telecommunication network comprise nodes, switches and routers.

Claim 121 : (Previously Presented) A program storage device readable by a machine and encoding a program of instructions for executing the method according to claim 87.

Claim 122 : (Currently Amended) A computer program product recorded on a computer readable medium for monitoring in a network management system a status of network elements (NEs) linked together in a telecommunication network, comprising:

a) computer readable program means for receiving a notification from a NE of the network of a down status of one of the neighboring Nes by having the NE regularly poll at least one other NE which is linked to the NE;

b) computer readable program means for identifying ~~at least~~ the at least one other NE which is linked to the NE; and

c) computer readable program means for polling by the network management system one of the NE and the at least one other NE to determine the status thereof.

Claim 123 : (Previously Presented) The computer program product according to claim 122, comprised in a network management system (NMS) of the telecommunication network.

Claim 124 : (Previously Presented) The computer program product according to claim 123, in which the computer readable program means for receiving the down status notification from the NE of the network comprises a fault manager module of the NMS.

Claim 125 : (Previously Presented) The computer program product according to claim 123, in which the computer readable program means for identifying the at least one other NE which is linked to the NE comprises a monitoring module of the NMS.

Claim 126 : (Previously Presented) The computer program product according to claim 125, in which the computer readable program means for polling comprises the monitoring module of the NMS.

Claim 127 : (Previously Presented) A computer system whose operation is directed by the computer program product according to claim 122.

Claim 128 : (Currently Amended) A ~~computer~~ computerized network management system in which a status of network elements (NEs) linked together in a telecommunication network is monitored, comprising:

a) receiving means for receiving a notification from a NE of the network of a down status of one of the neighboring Nes by having the NE regularly poll at least one other NE which is linked to the NE;

b) identification means for identifying ~~at least~~ the at least one other NE which is linked to the NE; and

c) polling means for polling by the network management system one of the NE and the at least one other NE to determine the status thereof.

Claim 129 : (Currently Amended) A computer readable medium on which is stored a computer program of instructions for a computer system which monitors in a network management system a status of network elements (NEs) linked together in a telecommunication network, comprising:

a) means for receiving a notification from a NE of the network of a down status of one of the neighboring NEs by having the NE regularly poll at least one other NE which is linked to the NE;

b) means for identifying ~~at least~~ the at least one other NE which is linked to the NE; and

c) means for polling by the network management system one of the NE and the at least one other NE to determine the status thereof.